

**METHODS OF TREATING DIABETES
AND OTHER BLOOD SUGAR DISORDERS**

ABSTRACT

Compositions, expression vectors and host cells comprising nucleic acid which encodes a precursor glucagon-like peptide 1 (GLP-1) comprising mammalian GLP-1 linked to a heterologous signal sequence are encompassed by the present invention. The invention also relates to a method of promoting insulin production in an individual comprising administering to the individual an effective amount of a nucleic acid encoding a precursor GLP-1. The present invention also relates to a method of treating an individual having a blood sugar defect (e.g., type I or type II diabetes), comprising administering to the individual an effective amount of a nucleic acid encoding the precursor GLP-1. In a particular embodiment, the invention pertains to a method of treating an individual having a blood sugar defect comprising administering to the individual an effective amount of a nucleic acid encoding a precursor GLP-1 wherein the precursor GLP-1 comprises a signal sequence which codes for precursor cleavage at the activation cleavage site of the precursor GLP-1.